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- (71) Applicant (for all designated States except US): GLUD & MARSTRAND A/S [DK/DK]; Hedenstedvej 14, DK-8723 Løsning (DK).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LINDVOLD, Lars [DK/DK]; Kornager 210, DK-2980 Kokkedal (DK). TIDE-MANN, Jesper [DK/DK]; Merkurvej 42, DK-8723 Løsning (DK).
- (74) Agent: PLOUGMANN & VINGTOFT A/S; Sundkrogsgade 9, P.O. Box 831, DK-2100 Copenhagen Ø (DK).

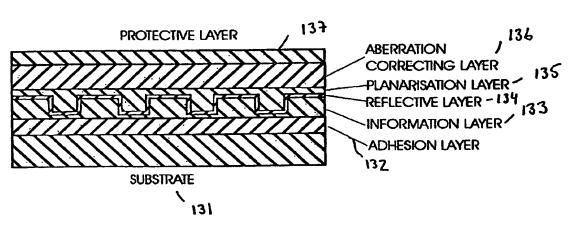
- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
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[Continued on next page]

(54) Title: A COMPENSATED OPTICAL STORAGE MEDIUM



(57) Abstract: A optical storage medium is provided, comprising a main substrate, an information surface being associated with the main substrate, and at least one compensating layer. The compensating layer may change a phase and/or amplitude of a propagating electromagnetic wavefront according to a first optical transfer function so that the optical storage medium may be read or recorded by a detector/emitter being pre-set to read or record information at an information surface through a medium changing the phase and/or amplitude of a propagating wavefront according to a predetermined optical transfer function being different from the first optical transfer function. The compensating layer may optically reduce a spot size of a light beam incident on the information surface, and/or compensate for aberrations caused by a first distance being different from a predetermined distance. The substrate may be non-transparent and/or thinner than standard substrates. Methods of making such media are also provided.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G11B7/24 G11B7/013

According to International Patent Classification (IPC) or to both national classification and IPC

### B. FIELDS SEARCHED

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic d	ata base consulted during the international search (name of de	ata base and, where practical, search terms used	1)
EPO-In	ternal, WPI Data, PAJ		
C. DOCUME	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of t	he relevant passages	Relevant to claim No.
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Α	paragraph [0024]; figure 1		14
X	WO 99/66502 A (TERASTOR CORP) 23 December 1999 (1999-12-23) claims 53,54		1,2
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X Furth	er documents are listed in the continuation of box C.	Patent family members are listed in	п аплех.
"A" documer conside "E" earlier de filing de "L" documer which is citation "O" documer other m	nt which may throw doubts on priority claim(s) or s cited to establish the publication date of another or other special reason (as specified) nt referring to an oral disclosure, use, exhibition or	"T" later document published after the interest or priority date and not in conflict with cited to understand the principle or the invention  "X" document of particular relevance; the cited cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the cited cannot be considered to involve an involve an inventive step when the document is combined with one or moments, such combination being obviouin the art.  "&" document member of the same patent for the	the application but sory underlying the standard invention be considered to coursent is taken alone laimed invention rentive step when the re other such docusts to a person skilled
Date of the a	ctual completion of the international search	Date of mailing of the international sear	ch report
14	1 May 2004	: 2 1 05. 20	004
Name and m	ailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Annibal, P	

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Box I	Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This Inte	ernational Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1.	Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
2. X	Claims Nos.: 15-98 because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  see FURTHER INFORMATION sheet PCT/ISA/210
з. 🗌	Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This Inte	rnational Searching Authority found multiple inventions in this international application, as follows:
1.	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.	As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark	on Protest  The additional search fees were accompanied by the applicant's protest.  No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 15-98

In view of the large number and also the wording of the claims presently on file, which render it difficult, if not impossible, to determine the matter for which protection is sought, the present application fails to comply with the clarity and conciseness requirements of Article 6 PCT (see also Rule 6.1(a) PCT) to such an extent that a meaningful search is impossible. Consequently, the search has been carried out for those parts of the application which do appear to be clear (and concise), namely an optical storage medium comprising a compensating layer which changes a phase and/or amplitude of a propagating electromagnetic wavefront according to a first optical transfer function so as to adapt the optical storage medium to be read and recorded by a detector/emitter being preset to read or record information at an information surface through a medium which changes the phase and/or amplitude of a propagating wavefront according to a different optical transfer function.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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